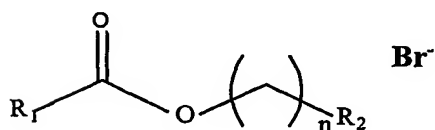
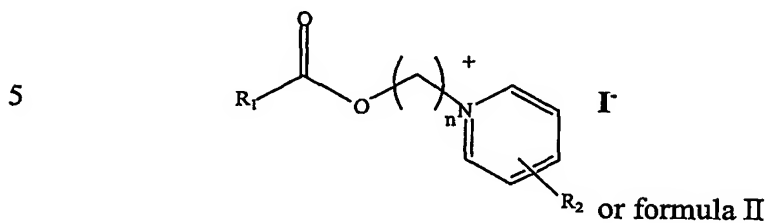
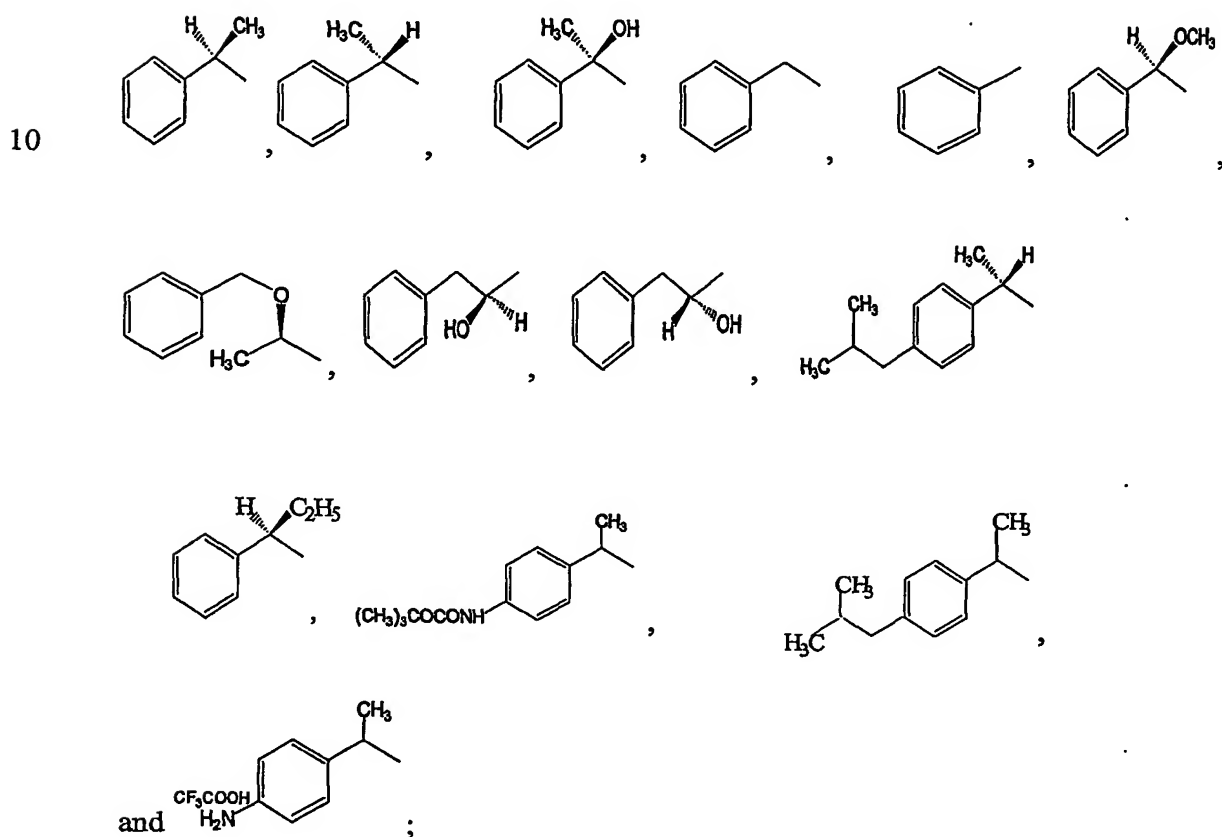


WHAT IS CLAIMED IS:

1. An amphiphilic pyridinium compound having a structure of formula I

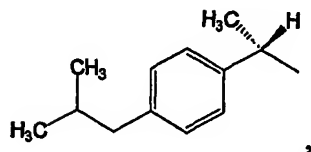


wherein in said Formula I, R_1 is selected from the group consisting of:

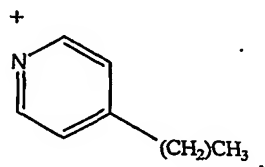
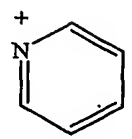
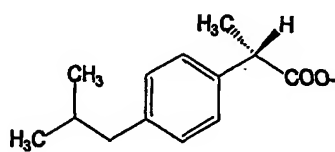
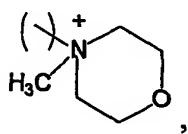


R_2 is selected from the group consisting of H and 3-CONH₂, and n is an integer between 8 and 10;

wherein in said Formula II, R_1 is

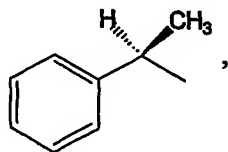


5 R_2 is selected from the group consisting of: p-(CH₂)₂CH₃, p-(CH₂)₂OH,



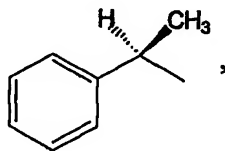
and n is an integer of 8.

10 2. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is



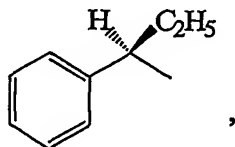
R_2 is H, and n is 8.

15 3. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is



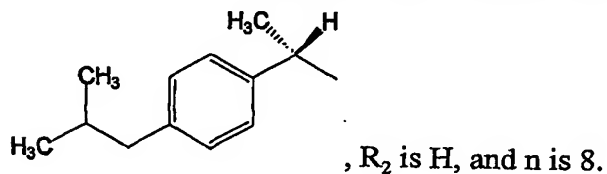
R_2 is H, and n is 10.

4. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is

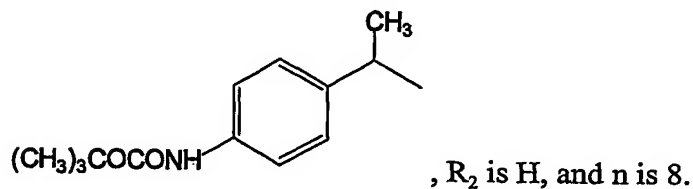


5 R_2 is H, and n is 8.

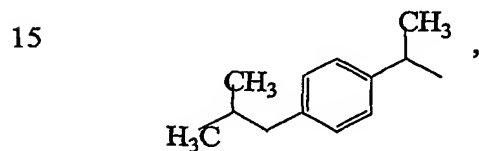
5. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is



6. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is

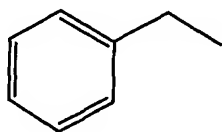


7. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is



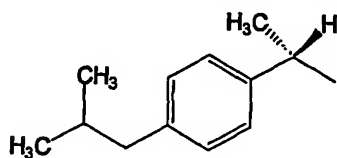
R_2 is 3-CONH₂, and n is 8.

8. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula I, and wherein R_1 is



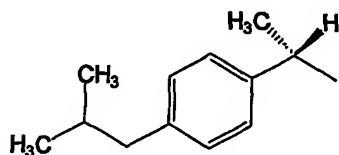
, R_2 is H, and n is 8.

- 5 9. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula II, and wherein R_1 is



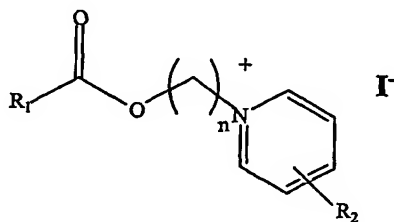
, R_2 is p-(CH₂)₂CH₃, and n is 8.

- 10 10. The amphiphilic pyridinium compound of Claim 1, wherein said compound has the structure of Formula II, and wherein R_1 is

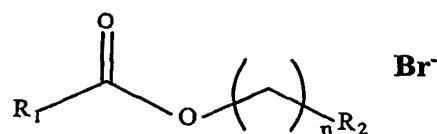


, R_2 is p-(CH₂)₂OH, and n is 8.

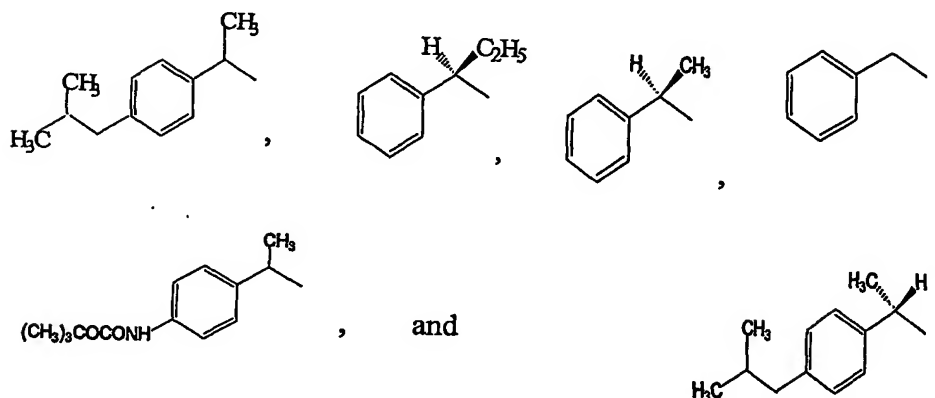
11. An amphiphilic pyridinium compound having a structure of formula I



or formula II

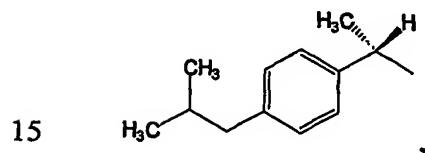


5 wherein in said Formula I, R_1 is selected from the group consisting of:



, R_2 is selected from the group consisting of H and 3- CONH_2 , and n is an integer between 8 and 10;

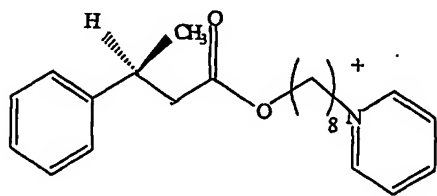
wherein in said Formula II, R_1 is



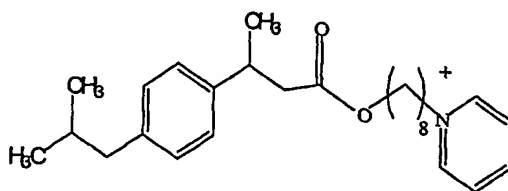
R_2 is selected from the group consisting of $\text{p}-(\text{CH}_2)_2\text{CH}_3$ and $\text{p}-(\text{CH}_2)_2\text{OH}$, and n is an integer of 8.

12. A pharmaceutical composition for treating an IL-8 related disease or condition, comprising said amphiphilic pyridinium compound of Claim 11, and a pharmaceutically acceptable carrier.

13. The pharmaceutical composition of Claim 12, wherein said amphiphilic pyridinium compound is



5 14. The pharmaceutical composition of Claim 12, wherein said amphiphilic pyridinium compound is



15. A method for treating an IL-8 related disease or condition in a mammal, comprising:

10 administering to said mammal a therapeutically effective amount of the pharmaceutical composition of Claim 12.

15 16. The method of Claim 15, wherein said IL-8 related disease or condition is selected from the group consisting of cystic fibrosis, cardiopulmonary bypass operations, cardiopulmonary arrest, inflammatory bowel disease, atherosclerosis, thermal injuries, acid injury, smoke inhalation, reexpansion pulmonary edema, traumatic brain injury, stroke, diabetes, transplant graft rejection, Alzheimer's disease, Parkinson's disease, viral infections such as HIV, cancer, cyclooxygenase inhibitors resistant fevers, rheumatoid arthritis and related inflammatory disorders.

20 17. The method of Claim 16, wherein said IL-8 related disease is cystic fibrosis.

18. The method of Claim 12, wherein said pharmaceutical composition is administered orally.

19. The method of Claim 12, wherein said pharmaceutical composition is administered intravascularly.

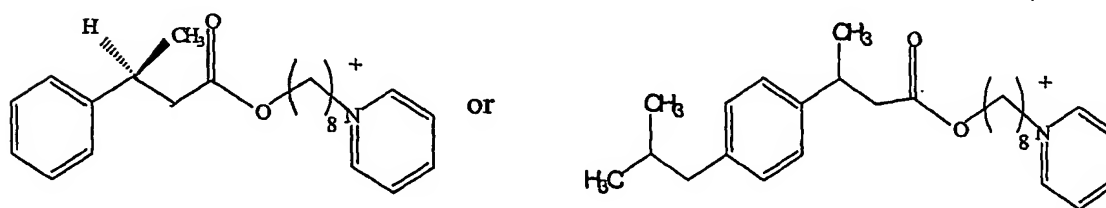
20. The method of Claim 12, wherein said pharmaceutical composition is administered intramuscularly.

21. The method of Claim 12, wherein said pharmaceutical composition is administered subcutaneously.

5 22. The method of Claim 12, wherein said pharmaceutical composition is administered intraperitoneally.

23. A method for inhibiting IL-8 secretion in a mammalian cell, comprising: contacting said cell with the amphiphilic pyridinium compound of Claim 11.

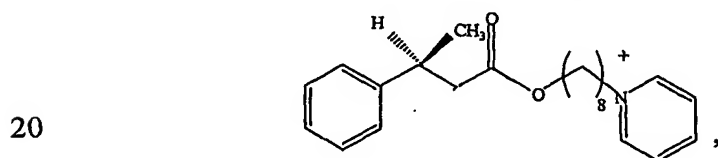
10 24. The method of Claim 23, wherein said amphiphilic pyridinium compound is



15 25. The method of Claim 23, wherein said mammalian cell is a CF lung epithelial cell.

26. A method for treating cystic fibrosis in a mammal, comprising: administering to said mammal a therapeutically effective amount of a pharmaceutical composition comprising:

(1) an amphiphilic pyridinium compound having a structure of



and

(2) a pharmaceutically acceptable carrier.

27. The method of Claim 26, wherein said pharmaceutical composition is administered orally.

25 28. The method of Claim 26, wherein said pharmaceutical composition is administered intravascularly.

29. The method of Claim 26, wherein said pharmaceutical composition is administered intramuscularly.

30. The method of Claim 26, wherein said pharmaceutical composition is administered subcutaneously.

5 31. A method for synthesizing the compound of Claim 3, comprising the steps of:

(a) synthesizing R-8-bromo-n-octyl α -methyl-2-phenylacetate through the steps of

10 preparing a first reaction mixture of R-(-)-2-phenylpropionic acid and 1,8 dibromo-octane in a methanolic solution of benzyltrimethylammonium hydroxide; adding tetrabutylammonium iodide to the first reaction mixture and incubating the first reaction mixture for three days with agitation,

(b) synthesizing R-8-iodo-n-octyl α -methyl-2-phenylacetate through the steps of:

15 dissolving R-8-bromo-n-octyl α -methyl-2-phenylacetate in a second organic solvent;

adding NaI to the dissolved R-8-bromo-n-octyl α -methyl-2-phenylacetate to form a second reaction mixture; and

20 incubating the second reaction mixture at room temperature overnight with agitation,

(c) dissolving R-8-iodo-n-octyl α -methyl-2-phenylacetate in a fourth organic solvent,

(d) adding pyridine to the dissolved R-8-iodo-n-octyl α -methyl-2-phenylacetate to form a third reaction mixture,

25 (e) incubating the third reaction mixture at 50°C for three days with agitation, and

(f) removing the fourth organic solvent.

32. A method of Claim 31, wherein said step (a) further comprising the steps of:

30 extracting R-8-bromo-n-octyl α -methyl-2-phenylacetate from the first reaction mixture with a first organic solvent; and

purifying the extracted R-8-bromo-n-octyl α -methyl-2-phenylacetate.

33. A method of Claim 31, wherein said step (b) further comprising the steps of:

extracting R-8-iodo-n-octyl α -methyl-2-phenylacetate from the second reaction
5 mixture with a third organic solvent; and

removing the third organic solvent.

34. A method of making the amphiphilic pyridinium compound of Claim 5 comprising the steps of:

10 dissolving S-8-Bromo-*n*-octyl α -methyl-2-(4-[2-methylpropyl]benzene)acetate
and pyridine in acetone;

adding tetrabutyl ammonium iodide to form a reaction mixture;

stirring the reaction mixture for 2 days at 50°C, and

removing acetone.

35. A method of making the amphiphilic pyridinium compound of Claim 9,
15 comprising the steps of:

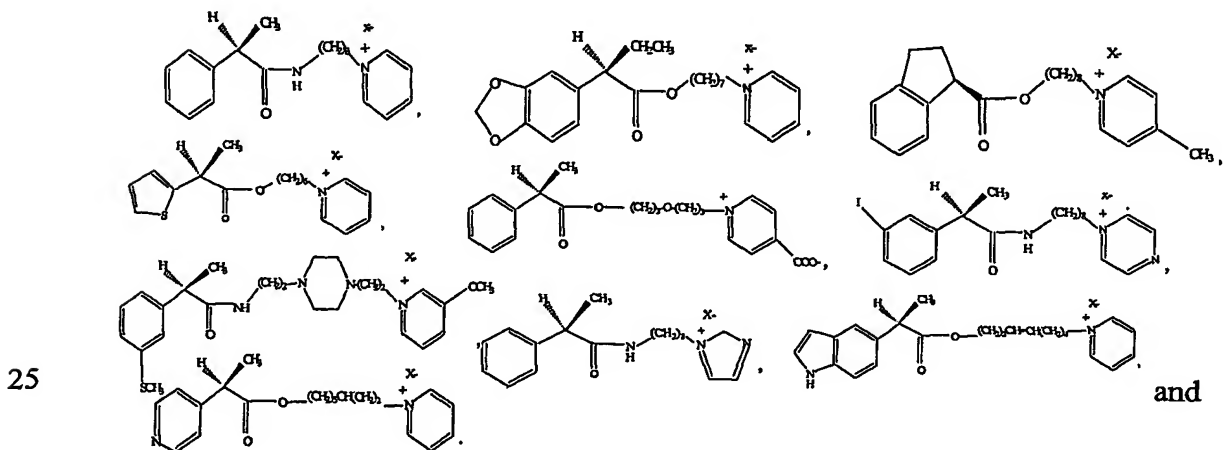
dissolving S-8-Bromo-*n*-octyl α -methyl-2-(4-[2-methylpropyl]benzene)acetate and 4-*n*-propylpyridine in acetone;

adding tetrabutyl ammonium iodide to form a reaction mixture:

stirring the reaction mixture for 2 days at 50°C, and

20 removing acetone.

36. An amphiphilic pyridinium compound is selected from the group consisting of:



37. A pharmaceutical composition for treating an IL-8 related disease or condition, comprising said amphiphilic pyridinium compound of Claim 36, and a pharmaceutically acceptable carrier.

38. A method for treating an IL-8 related disease or condition in a mammal, comprising:

administering to said mammal a therapeutically effective amount of the pharmaceutical composition of Claim 37.

39. The method of Claim 37, wherein said pharmaceutical composition is administered orally.

40. The method of Claim 37, wherein said pharmaceutical composition is administered intravascularly.

41. The method of Claim 37, wherein said pharmaceutical composition is administered intramuscularly.

42. The method of Claim 37, wherein said pharmaceutical composition is administered subcutaneously.

43. The method of Claim 37, wherein said pharmaceutical composition is administered intraperitoneally.

44. The method of Claim 37, wherein said IL-8 related disease or condition is selected from the group consisting of cystic fibrosis, cardiopulmonary bypass operations, cardiopulmonary arrest, inflammatory bowel disease, atherosclerosis, thermal injuries, acid injury, smoke inhalation, reexpansion pulmonary edema, traumatic brain injury, stroke, diabetes, transplant graft rejection, Alzheimer's disease, Parkinson's disease, viral infections such as HIV, cancer, cyclooxygenase inhibitors resistant fevers, rheumatoid arthritis and related inflammatory disorders.